Hierarchical growth of curved organic nanowires upon evaporation induced self-assembly

Bing Li, Josep Puigmartí-Luis, Alain M. Jonas, David B. Amabilino and Steven De Feyter

KU Leuven, Celestijnenlaan 200F, 3001 Heverlee, Belgium. Fax: +32 1632 7990; Tel: +32 1632 7921; E-mail: steven.defeyter@chem.kuleuven.be

Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Campus Universitari, 08193 Bellaterra, Catalonia, Spain. Fax: +34 935 805 729; Tel: +34 935 801 853; E-mail: amabilino@icmab.es

Institute of Condesned Matter and Nanosciences, Université catholique de Louvain, Croix du Sud 1/L7.04.02, 1348 Louvain-la-Neuve, Belgium.


**Present address: Empa, Laboratory for Protection and Physiology, Lerchenfeldstrasse 5, 9014 St. Gallen, Switzerland

Experimental information:

The samples were prepared by a similar procedure as reported before. Briefly, the compound 1 was dissolved in octanoic acid to prepare a solution of ~ 1.0 × 10⁻⁸ M. Before being deposited on a substrate, the solution was heated at 80 °C for about 15 min to better dissolve the compound. A drop of 20 µL of this solution was then applied onto a substrate and let to dry in a covered glass petri dish on a hotplate at 60 – 70 °C for overnight. The AFM measurements were carried out by using a Multimode SPM (DI) with a Nanoscope IV controller and an E scanner. All AFM images were obtained in tapping mode in ambient air with silicon cantilevers (spring constant of 21-60 N/m, resonance frequency of ca. 300 kHz, Olympus, Japan).
Supporting information:

**Figure S1:** (A) Histogram of outer diameter distribution of the disc-like objects. (B) Histograms corresponding to 3-layer concentric circle, 3 to 4-layer spiral and 4-layer concentric circle, respectively.

**Figure S2:** AFM images of assemblies of 1 on freshly-cleaved HOPG. The disc-like structures were often observed at step edges of graphite as indicated by dashed blue arrows.
Supporting information:

**Figure S3:** Representative AFM images of assemblies of 1 on (A) gold, (B) mica and (C) SiO₂, respectively.

**Figure S4:** AFM images of self-assemblies of 1 in thick films on HOPG surface. (A) A height image and its corresponding phase image (B) demonstrating the coexistence of disc-like features and bundled-wire structures, respectively. (C) A height image and (D) its corresponding phase image showing pure wire-type phase observed in the thick films of 1 on HOPG, respectively.
Supporting information: